IDAHO DEPARTMENT OF FISH AND GAME

Cal Groen, Director

Project W-170-R-34

Progress Report

BIG GAME HARVEST SURVEY

Study IV, Job 1

July 1, 2009 to June 30, 2010

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JOB:	1		Inventories

PERIOD COVERED: July 1, 2009 to June 30, 2010

ABSTRACT

Harvest estimates are made annually for all big game species in Idaho. Harvest of moose, mountain goats, bighorn sheep, black bears, and mountain lions is documented from mandatory carcass checks of all harvested animals. Deer, elk, and pronghorn harvest has been estimated from a mandatory report card from all hunters, with a follow-up telephone survey of a sample of hunters who failed to file the required report. The final figures (Appendix A) are estimates of hunter activity and harvest based on adjustments to the values reported by hunters. Surveys of hunters are also used to estimate hunter participation for most game species and to assess hunter's opinions about current issues about hunting and regulations in Idaho.

INTRODUCTION

Prior to 1998, a telephone survey was conducted following the fall hunting season for all big game species (mule and white-tailed deer, elk, pronghorn, moose, bighorn sheep, mountain goats, black bears, and mountain lions). Table 1 presents harvest numbers from 1935 to 2009.

Increasing costs of conducting the telephone harvest survey and budget limitations resulted in moose, mountain goats, and bighorn sheep being eliminated from the telephone harvest survey program in 1996. Black bears and mountain lions were eliminated from the telephone survey program in 1997 to maximize information collected on harvest of deer, elk, and pronghorn (Table 1). Subsequently, minimum harvest of moose, mountain goats, bighorn sheep, black bear, and mountain lion has been calculated from mandatory harvest check information (Table 2, Appendix A).

Deer, Elk, and Pronghorn Antelope

Beginning in 1998, the telephone surveys for deer and elk were changed to a mandatory harvest report. Hunters are required to file a report about their hunt and harvest success. In 2001, pronghorn was also changed to a mandatory harvest report. Hunters are required to report the number of days hunted, by weapon and game management unit (GMU), whether they harvested an animal, and if so, the date, GMU, weapon used, sex, and antler points (deer and elk) or horn length (pronghorn).

Results were tabulated for general, controlled, depredation, landowner appreciation and super hunts (599 different controlled hunts in 2010); by 99 game management units (GMUs); by 29 elk management zones; and by harvest weapon (rifle/shotgun, archery, muzzleloader). Starting in 2005, estimates for mule deer and white-tailed deer were estimated separately (tabulating the deer species primarily hunted for, the species harvested, days hunted, and weapon used). Harvest data from all years are stored in a large database.

In 2009, hunters were able to submit their reports via mail, telephone, fax, or internet website. Systems Consultants, Inc. (SCI) of Fallon, Nevada, processed the raw harvest reports for deer, elk, and pronghorn hunters in 2009 and the raw data were provided to the Department for analysis. The analysis and tabulation were performed internally. A random telephone survey of individuals who did not submit a harvest report for 2009 was conducted by SCI in December 2009 and January 2010. The reported figures were modified by a non-reporting expansion factor to obtain the final harvest figures.

A total of 228,620 tags were purchased by 152,616 hunters for deer, elk, and pronghorn hunts occurring in 2009 (primarily from August to December; average 1.5 tags per hunter, maximum 6 tags per hunter). Hunters were required to report on their hunting effort and harvest success within 10 days of the end of the hunting season.

One reminder postcard was sent to 99,000 hunters who had not yet filed their reports by mid-November 2009 (one postcard per household). In past years, a reminder letter (90,000 in mid-December 2007 and mid-January 2008) had been sent to hunters who had not yet filed reports. This letter was eliminated in 2008, to reduce costs and obtain results sooner.

A total of 143,100 harvest reports were filed by hunters in 2009. About 63% of tags were reported by the hunters, lower than in past years. This lower percentage was the result of reducing the number of reminder mail-outs.

To estimate bias from non-compliance, a telephone survey was conducted. We attempted to contact a random sample of 40,000 of the remaining hunters by telephone, in December 2009 and January 2010 to obtain their harvest reports. Of these, 12,200 missing reports were completed by phone. The harvest results from the telephone sample were used to estimate the harvest by hunters who did not file reports.

The number contacted by phone was doubled to compensate for the anticipated lower percent who reported because of reduced mailings. Goals were to increase the statistical validity of the estimates and complete the project one month earlier. The phone sample was increased considerably over the previous years (40,000 hunters in 2009, 32,000 in 2008, 16,000 in 2007, and 8,000 in 2006). This phone survey was done one month earlier starting in 2008 (Dec./Jan.) than in previous years (Jan./Feb.), to obtain results earlier. Therefore some hunters did not have as much time to report on their own as in past years. A higher percentage was received on-line, 65%, an increasing trend in recent years.

Pronghorns were converted to only controlled hunts in 2009. Pronghorn hunters and those with controlled hunt tags for deer and elk were sampled at a higher rate to increase precision. The harvest results from the telephone sample were used to estimate the harvest by hunters who did not file reports (30% of missing controlled hunt reports and 12% of missing general reports were completed by phone – others had been properly reported during the same period, reducing the number needed to contact).

A final total of 155,484 reports were filed by hunters by April 27, 2010, or during the non-compliance phone survey (68.0% of all permits purchased).

Harvest data from Fall 2009 were analyzed at a general level by March 2010, so that recommendations for changes to big game regulations could be made, and analyzed at a detailed level by May 2010 so that hunters could apply for controlled hunts. The harvest results were placed on the IDFG web site in May 2010. Improvements were made to the process of transferring results to the web site to be integrated with the IDFG Hunt Planner web site for better functionality.

A summary of deer, elk, and pronghorn harvest is presented in Tables 1 and 2 and Appendix A. Estimated harvest and hunter participation for these species are also listed in other Federal Aid about each species. These harvest data are used to fill many requests for information by managers, biologists, commissioners, legislators, research collaborators, interested citizens, and other stakeholders.

In Fall 2010, greater emphasis will be placed on all-digital reporting. Paper harvest survey forms were discontinued in June 2010, to save considerable money on data entry, postage, and printing. Hunters are encouraged more and more to file their reports online or by telephone. Hunters will also be able to report directly to a computer-operated survey program by telephone. Online reporting has increased considerably over the last few years.

Moose, Bighorn Sheep, Mountain Goats, Black Bears and Mountain Lions

Harvest of moose, bighorn sheep, and mountain goats, black bears, and mountain lions was documented from mandatory carcass checks of all harvested animals (Table 2 and Appendix A). A total of 3,399 carcasses were checked for these species. More detailed information about these species is listed in other Federal Aid reports about each species. These species were eliminated from the telephone harvest survey program in 1996/97 to maximize information collected on harvest of deer, elk, and pronghorn. Number of hunters that participated and days hunted is not calculated for these species. Estimated harvest and hunter participation for these species are also listed in other Federal Aid about each species.

A new survey of hunters who purchased tags in Idaho's first wolf hunting season (September 2009 to March 2010) was conducted, asking about the hunter's participation and days hunted, by management unit, method of hunting, and several opinion questions about wolf management. Survey questionnaires were mailed in May 2010 to a random sample of 3,000 out of 27,577

hunters who had purchased 31,399 wolf hunting tags in 2009 or 2010. From the responses received, an estimated 19,358 hunters participated on 264,344 days.
The legal harvest in the 2009-2010 hunting season was 186 wolves.

Other Hunter Surveys

Additional surveys are conducted to monitor hunter participation, harvest, and days hunted, for: sandhill cranes, sage- and sharp-tailed grouse, wild turkeys, ring-necked pheasants planted on Wildlife Management Areas (WMA), migratory birds (doves, ducks, and geese), and upland game (3 species of forest grouse (blue/dusky, ruffed, spruce), pheasants, gray partridge, chukars, quail, cottontails, snowshoe hares). Detailed information about these species is listed in other Federal Aid reports.

These harvest data are used to fill many requests for information by managers, biologists, commissioners, legislators, research collaborators, interested citizens, and other stakeholders.

Hunter Opinion Surveys

Surveys of hunters were also used to assess hunter opinions about current issues about hunting and regulations in Idaho, sometimes in conjunction with harvest estimates. A stratified-random sample of hunters is typically contacted using a mailed survey questionnaire with a follow-up phone call. Participants are drawn from the list of hunters who purchased hunting licenses and/or specific relevant tags or permits. In some cases, selected hunters may respond through a web-based survey form on the internet.

Topics surveyed in 2009-2010 included:

- Reasons why non-resident hunters were slow to purchase deer and elk tags (May 2009)
- Sightings of wolves by deer and elk hunters in 2009 (May 2009, 2010)
- Wolf hunting participation survey, May 2010 (3,000 mailed in May 2010)
- Proposed changes in Non-Biological regulations (internet, June-July 2010)
- Participation in hunting on IDFG's "Access Yes!" properties

An opinion survey was conducted in May 2009 of non-resident big game hunters. Sales of deer and elk tags to non-resident hunters were down in spring 2009. A list was prepared of 31,000 non-resident hunters who had purchased deer or elk tags in 2007 or 2008, but not yet in 2009. A questionnaire was sent to these hunters along with a packet of information inviting them to apply for upcoming controlled hunts. Respondents (n=2,584) indicated that the most common reasons for not yet purchasing were: 1) concern about the poor economy, 2) perception of too many wolves and too few elk, and 3) annoyance at the recent 15% fee increase for non-residents but not residents. A follow-up summary of the findings was mailed back to those hunters in September 2009. Bruce Ackerman and Michele Beucler attended a conference on "Human Dimensions in Wildlife" in Colorado in September 2010 and presented information about this survey.

Deer and elk hunters were surveyed in May 2010 about their wolf sightings while hunting in Fall 2009. Hunters (n=11,900) who had reported hunting deer and elk in 81 specific GMUs were asked about their wolf observations while hunting (live wolves, tracks, scats, howling, etc.). The purpose of this survey is to assess the presence of wolf packs in specific drainages, as reported by hunters, as one of several sources of information to assess wolf abundance. This is one part of an occupancy modeling approach to develop an efficient, low-cost monitoring method in the future to assess where wolf packs are located, perhaps without using radio-telemetry in the future. This is the third year of a three-year study in collaboration with the University of Montana and the Nez Perce Tribe.

The Internet was used to scope possible changes proposed about Non-Biological Rule changes in Summer 2010 for Commission meetings in July and August 2010. A series of 24 questions were placed on the Internet, to provide opportunity for any interested persons to respond. A total of 8,239 responses were received. Letters were also mailed to 981 landowners enrolled in the LAP Program.

Questions addressed changes in the following regulations:
1) Support for creating a Bonus Points system for awarding big game species permits, and details of how it would be administered;
2) Proposed changes to the Landowner Appreciation Permit system for big game tags, how they are administered, and regulations on their use;
3) Proposed changes to Upland Gamebird hunting regulations, such as season dates for hunting forest grouse, quail, chukars, gray partridge, and sage-grouse; pheasant shooting hours on Wildlife Management Areas in southwest Idaho; and rules for shooting from watercraft;
4) Proposed changes to other miscellaneous game rules, such as use of sabots and metal-jacketed bullets in muzzleloader hunts; changes to motorized vehicle restrictions in Units 48 and 57; development of standards for trapping in public areas; and development of rules for harvest and sale of rattlesnake skins and rattles.

ACKNOWLEDGMENTS

This survey was partially supported by Federal Aid in Wildlife Restoration (W-170-R) Statewide Big Game Harvest Survey. The 2009 raw harvest survey data for deer, elk, and pronghorn were processed by Systems Consultants, Inc., Fallon, Nevada, under contract with the Idaho Department of Fish and Game.

Table 1. Statewide estimates of harvest, number of hunters, and activity for 2009.

Species	Season	Tags sold	Hunters	Harvest	Success (%)	Days hunted
Deer	Any weapon	121,315	102,094	31,231	31	607,706
	Archery	[a]	13,585	1,994	15	109,590
	Muzzleloader	[a]	2,480	612	25	11,362
	Controlled	16,732	14,978	8,197	55	77,591
	Total	138,047	124,905	42,189	34	806,249
Elk	Any Weapon	71,168	47,505	7,002	15	283,963
	Archery	[a]	17,834	2,711	15	151,445
	Muzzleloader	[a]	5,076	798	16	23,021
	Controlled	16,062	14,605	5,257	36	88,594
	Total	87,230	78,841	15,813	20	547,023
Pronghorn	Controlled [b]	3,348	2,880	1,335	46	11,840
	(CH-Any Weapon)		1,163	894	77	3,590
	(CH-Archery)		1,444	327	23	7,133
	(CH-Muzzle)		275	108	39	1,117

[a] Deer and elk general tags are valid for any-weapon, archery, and muzzleloader seasons.
[b] Pronghorn tags were all converted to controlled hunt in 2009, some only for archery hunting.

"Any-weapon" means that any legal weapon can be used during that season, but most hunters used rifles (allows shotgun, handgun, archery, cross-bow, muzzleloader).

Table 2. Big game harvest history, 1935-2009.

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
1935	7,659	1,821	144	8			1	24
1936	7,800	1,917	124	79			4	81
1937	8,795	2,133		133			6	62
1938	11,597	2,298		49			12	61
1939								
1940			400					
1941								
1942	4,952		700					
1943	11,095	2,398		61				23
1944	13,982	2,874	1,470	118				33
1945	21,263	4,392	650	150				59
1946	26,936	5,435	0	233		26	13	125
1947	18,895	6,549	461	406		24	15	67
1948	21,924	5,944	419			27		
1949	22,285	5,395	383			27		
1950	22,578	7,165	539			50		8
1951	33,250	7,492	1,349			28		21
1952	30,454	8,792	1,520	500		71	13	14
1953	47,200	12,600	1,254	500		91	18	21
1954	51,400	12,451	970	2,600		105	13	27
1955	64,074	15,799	822	2,450		108	22	51
1956	71,862	15,910	919	3,124		134	20	61
1957	62,154	13,568	1,001	3,045		91	29	78
1958	71,013	16,450	821	3,709		77	37	59
1959	70,237	13,865	679	2,367	119	59	59	59
1960	75,213	16,545	701	3,373	83	40	62	114
1961	76,001	16,572	579	2,218	164	46		140
1962	66,645	13,653	549	3,951	98	45		144
1963	63,546	14,542	774	2,444	162	52	49	171
1964	67,379	13,835	839	3,419	127	59	35	161
1965	56,438	14,064	977	2,861	108	51	53	214
1966	64,629	14,631	1,219	3,386	156	55	14	161
1967	66,350	13,397	1,286	2,700	109	50	32	127
1968	78,441	17,064	1,294	2,597	164	53	47	161
1969	67,176	12,415	1,472	3,085	143	74	46	168
1970	77,087	14,146	1,551	3,404	114	81	64	151
1971	54,927	11,009	1,465	3,786	303	86	13	137
1972	47,599	9,324	1,486	3,783	70	88	21	152
1973	54,014	12,374	1,237	1,430	87	96	15	128
1974	42,026	8,712	1,301	1,747	112	112	16	121
1975	40,102	8,981	1,314	2,285	142	93	32	102

Year	Deer	Elk	Pronghorn	Black bear	Mtn. lion	Moose	Bighorn sheep	Mtn. goat
1976	25,427	4,135	1,380	2,516	123	94	38	103
1977	39,834	6,353	1,250	2,173	160	95	27	117
1978	39,879	7,662	1,345	2,300	167	99	38	106
1979	42,549	6,344	1,430	1,718	31	104	42	79
1980	45,988	8,303	1,498	1,619	97	118	32	47
1981	50,580	9,903	1,837	1,918	198	114	46	65
1982	48,670	12,485	2,112	1,584	189	147	64	32
1983	50,600	12,700	2,400	2,100	167	229	60	41
1984	42,600	15,600	2,070	2,100	400	268	70	52
1985	48,950	15,550	2,190	1,700	170	297	79	38
1986	59,800	15,500	2,540	2,150	250	355	79	56
1987	66,400	16,100	2,600	1,950	300	363	77	70
1988	82,200	20,400	2,800	1,900	550	399	76	62
1989	95,200	22,600	3,500	2,100	340	400	98	79
1990	72,100	21,500	3,180	2,300	350	422	92	76
1991	69,100	24,100	2,950	2,100	171	428	97	85
1992	61,200	26,600	3,150	2,800	330	420	106	67
1993	45,600	20,800	2,470	1,260	450	579	80	66
1994	56,900	28,000	1,835	2,250	450	558	78	69
1995	48,400	22,400	1,540	2,040	700	637	57	44
1996[a]	50,800	25,600	1,460	1,740	635	583	48	48
1997[b,c]	38,600	18,500	1,300	1,538	834	638	61	61
1998	39,000	18,750	1,150	1,973	804	612	63	57
1999	43,300	17,500	1,150	1,819	652	775	50	48
2000	45,200	20,200	1,325	1,855	728	774	50	48
2001	53,000	19,500	1,350	1,887	628	918	48	48
2002	44,650	18,400	1,350	2,390	514	870	34	41
2003	43,500	18,400	1,300	2,415	569	933	36	33
2004	46,160	20,800	1,340	2,443	459	928	46	32
2005	54,050	21,470	1,410	2,425	466	835	42	48
2006	51,700	20,040	1,480	2,231	480	811	48	46
2007	54,200	19,100	1,460	2,660	440	847	57	36
2008	43,605	16,017	1,427	2,169	416	794	48	39
2009	42,189	15,813	1,335	2,091	432	781	53	42

[a] Because of budget shortfalls and increasing costs of conducting the telephone harvest survey, moose, bighorn sheep, and mountain goats were eliminated from the telephone survey in 1996. Harvest figures after 1996 result from mandatory harvest check-in records.

[b] Harvest estimates from 1997-2000 do not include pronghorn harvest during the general archery season.

[c] Black bear and mountain lions were dropped from the telephone survey program in 1997 because of budget restrictions. Harvest figures after 1997 result from mandatory harvest check-in records.

APPENDIX A

Summary of

2009

Big Game Harvest Estimates

Species	Estimated Permits	Hunters	Harvest	Days hunted
Deer	138,047	124,905	42,189	806,249
Elk	87,230	78,841	15,813	547,023
Pronghorn	3,348	2,880	1,335	11,840
Black Bear	33,249	---	2,091	---
Mountain Lion	22,188	---	432	---
Moose	1,023	---	781	---
Bighorn Sheep	85	---	53	---
Mountain Goat	46	---	42	---

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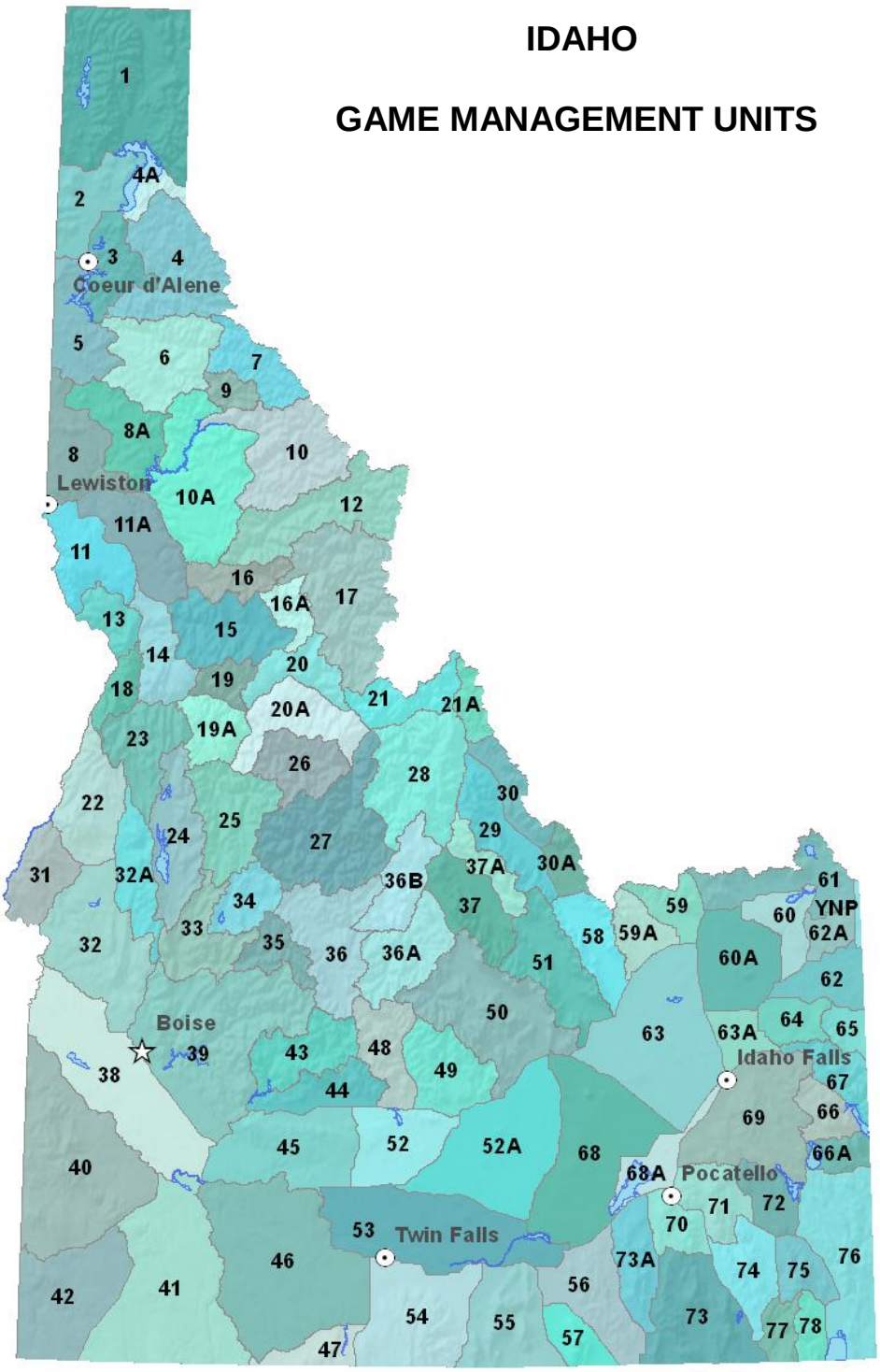
GAME MANAGEMENT UNITS



FEDERAL AID IN WILDLIFE RESTORATION

The Federal Aid in Wildlife Restoration Program consists of funds from a 10% to 11% manufacturer's excise tax collected from the sale of handguns, sporting rifles, shotguns, ammunition, and archery equipment. The Federal Aid program then allots the funds back to states through a formula based on each state's geographic area and the number of paid hunting license holders in the state. The Idaho Department of Fish and Game uses the funds to help restore, conserve, manage, and enhance wild birds and mammals for the public benefit. These funds are also used to educate hunters to develop the skills, knowledge, and attitudes necessary to be responsible, ethical hunters. Seventy-five percent of the funds for this project are from Federal Aid. The other 25% comes from license-generated funds.